CLAIMS

1. A composition comprising a fiber which comprises or has coated thereon a thin film wherein said thin film comprises or is produced from a fluorocarbon silane or an emulsion, said emulsion comprises or is produced from (1) a fluorocarbon silane or its hydrolyzate, (2) water, and (3) optionally a surfactant, an alkoxysilane compound, catalyst, or combinations of two or more thereof; said fluorocarbon silane having the formula R_f-$(CH_2)_p$-Si{-$(O$-$CH_2CH_2)_n$-OR^1}$_3$; R_f is a C_{3-18} perfluoroalkyl group or combinations of two or more thereof; each R^1 is independently one or more C_{1-3} alkyl groups; p is 2 to 4; and n is 2 to 10.

2. The composition of claim 1 wherein said thin film further comprises, or is produced from, a copolycondensate of said fluorocarbon silane and an alkoxysilane.

3. The composition of claim 1 or 2 wherein said thin film has a thickness of less than 1,000 nm, preferably less than 500 nm.

4. The composition of claim 1, 2, or 3 wherein said fiber is an aromatic polyamide fiber, an aromatic polyester fiber, a heterocyclic aromatic fiber, or combinations of two or more thereof.

5. The composition of claim 4 wherein said fiber is a p-phenylene terephthalamide fiber.

6. A textile product comprising or produced from a fiber wherein said fiber is as recited in claim 1, 2, 3, 4, or 5.

7. The product of claim 6 wherein said product is a woven product, a knit product, a nonwoven fabric, or combinations of two or more thereof; and is preferably a woven fabric for protective clothing, a firefighting apparel, or a glove.

8. A process comprising combining a fluorocarbon silane or its hydrolyzate, water, and optionally a surfactant, an alkoxysilane compound, catalyst, or combinations of two or more thereof to produce a mixture and optionally heating said mixture to produce an emulsion wherein said fluorocarbon silane having the formula R_f-$(CH_2)_p$-Si{-$(O$-$CH_2CH_2)_n$-OR^1}$_3$; R_f is a C_{3-18} perfluoroalkyl group or combinations of two or more thereof; each R^1 is independently one or more C_{1-3} alkyl groups; p is 2 to 4; and n is 2 to 10.

9. The process of claim 8 further comprising producing a thin film of said emulsion onto a fiber wherein said thin film has a thickness of less than 1000 nm, preferably less than 500 nm; and said thin film is as recited in claim 1, 2, 3, 4, or 5.

10. The process of claim 9 wherein said fiber is an aromatic polyamide fiber, an aromatic polyester fiber, a heterocyclic aromatic fiber, or combinations of two or more thereof.

11. The process of claim 10 further comprising producing a woven product, a knit product, a nonwoven fabric, or combinations of two or more thereof.